



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2016-5590; Directorate Identifier 2016-NM-018-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440), CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. This proposed AD was prompted by reports of undesirable changes in the Reference Airspeed (RAS) Bug, occurring during flight without pilot input. This proposed AD would require replacing the flight control computer (FCC). We are proposing this AD to prevent uncommanded pitch changes, which could result in deviation from a safe flight path.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Assata Dessaline, Aerospace Engineer, Avionics and Services Branch, ANE-172, FAA, New York Aircraft

Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7301; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2016-5590; Directorate Identifier 2016-NM-018-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2016-02, dated January 20, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440), CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states:

There have been numerous reports of uncommanded changes in the Reference Airspeed (RAS) Bug during flight. When the Auto Flight Control System (AFCS) is in a speed mode (CLB, DES, IAS or MACH), the flight director will show vertical guidance to achieve or maintain the reference airspeed. If the autopilot is engaged, the aeroplane will automatically follow that vertical guidance and cause the aeroplane to pitch up or pitch down. Investigation revealed that this uncommanded reference airspeed changes were caused by the FCC that did not correctly read the input data from the Input/Output Concentrator. If not corrected, these uncommanded pitch changes could create hazard for continued safe flight. This [Canadian] AD mandates installation of a new filter to the Input/Output Circuit Card in the FCC.

Uncommanded pitch changes, if not corrected, could result in deviation from a safe flight path. Corrective actions include replacing the FCC. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590.

#### **Related Service Information under 1 CFR part 51**

We reviewed Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; and Service Bulletin 670BA-22-009, dated August 7, 2015. The service information describes procedures for replacing the FCCs. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in

the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

#### **Costs of Compliance**

We estimate that this proposed AD affects 1,008 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Replace FCC	3 work-hours X \$85 per hour = \$255 per airplane	\$2,800	\$3,055	\$3,079,440

#### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Bombardier Inc.:** Docket No. FAA-2016-5590; Directorate Identifier  
2016-NM-018-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF  
PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440), CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes, certificated in any category, all serial numbers, that are equipped with a flight control computer (FCC) with a part number and serial number listed in paragraph 1A., Effectivity, of Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; or Service Bulletin 670BA-22-009, dated August 17, 2015.

**(d) Subject**

Air Transport Association (ATA) of America Code 22, Auto Flight.

**(e) Reason**

This AD was prompted by reports of undesirable changes in the Reference Airspeed (RAS) bug, occurring during flight without pilot input. We are issuing this AD to prevent uncommanded pitch changes, which could result in deviation from a safe flight path.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Replace the FCC for Certain Airplanes**

Within 33 months after the effective date of this AD: Remove the FCC from the integrated avionic processor system (IAPS) and replace the FCC in accordance with the Accomplishment Instructions of the applicable service information in paragraph (g)(1) or (g)(2) of this AD:

(1) Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; or

(2) Bombardier Service Bulletin 670BA-22-009, dated August 17, 2015.

**(h) Parts Installation Limitation**

As of 12 months after the effective date of this AD, no person may install any FCC having a part or serial number identified in Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; or Bombardier Service Bulletin 670BA-22-009, dated August 17, 2015, unless “SB 50” is marked on the FCC modification chart (MOD chart).

**(i) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin SB 601R-22-018, dated August 17, 2015.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve



AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the New York ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2016-02, dated January 20, 2016, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590.

(2) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on April 5, 2016.

Suzanne Masterson,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.  
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